

Crosses of *Oenothera*.—GATES¹⁰ reports the results of various crosses between *Oenothera grandiflora* and a variant of *Oenothera rubrinervis* of DEVRIES which he has described previously under the name *Oenothera rubricalyx*. He finds *rubricalyx* pigmentation (*R*) dominant to the type of pigmentation found in *rubrinervis* (*r*), and he believes this difference to be due to a single Mendelian factor, though his proof does not seem convincing to the reviewer. Assuming this to be the case, however, the discovery that various F_1 individuals produce F_2 ratios running from 3:1 to nearly 10:1 is very interesting, particularly as the same phenomenon appeared in the segregation of tallness from dwarfness. The author says these results are "inexplicable on a Mendelian basis," and reverts to that familiar piece of biological sarcasm, the word "prepotency," as an explanation. Unquestionably there is a chance that these odd ratios may lead to a distinct genetic advance when they are finally worked out, but the word "inexplicable" is a little hasty, since it may be pointed out that some of DEVRIES' dwarf mutants (*O. nanella*) have been shown to be infected with a micrococcus.

The crucial proof that mutation is independent of hybridization, which the author feels he has obtained, came from four aberrant plants which occurred among the hybrids. Two combined characters of the DeVriesian mutant *semilata* with characters of *grandiflora*, and two combined features of *lata* with features of *rubricalyx*. One plant out of the four was examined cytologically, and its cells were found to contain 15 instead of 14 chromosomes. This furnishes definite proof, it is said, that the *lata* (or *semilata*) foliage and habit results from the presence of an extra chromosome.

A large portion of the paper is taken up with general Mendelian criticism of a very acrimonious character. It is somewhat reminiscent of the windmill tourney of a certain Spanish cavalier, for obstacles are erected, labeled "Beliefs of Mendelians," of course without any citations whatever, and tilted at with great gusto and satisfaction.—E. M. EAST.

Cruciate-flowered *Oenotheras*.—BARTLETT¹¹ has discussed certain species of the much studied genus *Oenothera*. NUTTALL named *O. cruciata* from its linear petals, and thus the character of linear or narrowly oblong petals in the genus, as contrasted with broadly obovate petals, has come to be known as "cruciateness." The origin of this character is under discussion, and BARTLETT believes that it has originated in several lines of descent. As a consequence, he regards *O. cruciata*, as it has been ordinarily interpreted, as an aggregate, which should be resolved. After determining the real type of *O. cruciata*, he

¹⁰ GATES, R. R., Breeding experiments which show that hybridization and mutation are independent phenomena. *Zeitschr. Ind. Abst. u. Vererbungslehre* 11:209-279. 1914.

¹¹ BARTLETT, H. H., An account of the cruciate-flowered *Oenotheras* of the subgenus *Onagra*. *Amer. Jour. Bot.* 1:226-243. *figs. 2. pls. 19-21.* 1914.

adds three new cruciate species: *O. atrovirens*, *O. venosa*, and *O. stenomeres*, the first two being published in collaboration with SHULL. In connection with the segregation of these species, the cultures of the author have opened some very interesting questions that will be discussed later. For example, a new mutation was secured, which is called *O. stenopetala* mut. *lasiopetala*, and which is reserved for further discussion until its seeds have produced new plants. BARTLETT proposes a trinomial system of nomenclature, shown by the name of this mutation, for mutations of garden origin, "in order to set them clearly apart from forms of which cognizance must be taken in floras."—J. M. C.

A drought-resistant citrous fruit.—The search for hardy races of valuable plants has discovered a genus of drought-resistant citrous fruits from Australia, which SWINGLE¹² has concluded to be a new genus, to which he has given the name *Eremocitrus*. It is the Australian desert kumquat, now commonly called *Atalantia glauca* (Lindl.) Benth. It is the only member of the orange group that shows marked adaptation to desert climates, and has the general aspect of "sagebrush." It is under investigation in this country, having been sent to a number of localities for trial, so that within a year or two the limitations of its culture in the United States will be known.—J. M. C.

Pith of Osmunda.—GWYNNE-VAUGHAN¹³ has described a stem of *Osmunda regalis* whose pith contains scattered tracheae. Such a "mixed pith" was described by KIDSTON and GWYNNE-VAUGHAN (1910) for the fossil *Osmundites Kolbei*. This same situation in an anomalous specimen of *Osmunda regalis* is regarded as further supporting the theory that the pith of the Osmundaceae "is phylogenetically stelar and not cortical, and that it arose by the progressive conversion of the central tracheae of a solid xylem strand into parenchyma." J. M. C.

Flora of southeastern Washington.—PIPER and BEATTIE¹⁴ have published a manual of the vascular plants of a very interesting region, being an extension of their *Flora of the Palouse region*, published in 1901. The region covered is said to embrace the richest wheat lands of the northwest, the principal drainage systems being those of the Snake and Spokane rivers. The manual is handsomely printed, and includes descriptions of 1139 species, distributed as follows: 20 pteridophytes, 11 gymnosperms, 270 monocotyledons, and 838 dicotyledons.—J. M. C.

¹² SWINGLE, WALTER T., *Eremocitrus*, a new genus of hardy, drought-resistant citrous fruits from Australia. Jour. Agric. Research 2:85-100. figs. 7. pl. 8. 1914.

¹³ GWYNNE-VAUGHAN, D. T., On a "mixed pith" in an anomalous stem of *Osmunda regalis*. Ann. Botany 28:351-354. pl. 21. 1914.

¹⁴ PIPER, CHARLES V., and BEATTIE, R. KENT, Flora of southeastern Washington and adjacent Idaho. 8vo. pp. xi+296. Pullman: State College of Washington. 1914. Paper, \$1.00; cloth, \$1.20.